

skirting board, architrave or a window or door style there is available a professionally installed termite baiting station which is secured over the infested site by screws or the like. The bait station comprises a moulded plastics box-like body with four side walls, a removable front wall secured by screws and an open rear wall. After forming an enlarged access aperture in the timber member in which infestation is discovered, the open body is secured by mounting lugs to the surface of the timber member around the aperture. A licensed operator then mixes a batch of cellulosic feed such as α methylcellulose with water and an appropriate toxin such as a chitin synthesis inhibitor or a stomach poison to form a stiff paste which is loaded into the open body of the baiting station. When fully loaded, the front wall is screwed onto the body to form a sealed chamber.

While generally effective for their intended purpose, such internal baiting stations suffer a number of disadvantages. Due to the nature of the termiticide compounds used and the fact that a fresh batch of feed containing the termiticide must be mixed on site prior to sealing the bait container, only licensed operators may install the baiting stations. Moreover, as frequent inspections and refills are required this is not only a costly exercise for the homeowner but the removal of the front cover plate at regular intervals can disturb the feeding cycle of the termite and seriously protract the treatment time required to eradicate a nest.

Accordingly, it is an aim of the present invention to provide a method and apparatus for the detection and/or eradication of termites both in subterranean environments and in structures, which method and apparatus overcome or alleviate at least some of the shortcomings of prior art systems.

SUMMARY OF THE INVENTION

According to a first aspect of the apparatus there is provided a bait station for distribution of a termiticide to foraging termites, said bait station comprising:-

a sealed hollow body containing a cellulosic feedstuff and a termiticide, said hollow body having a plurality of apertures therein at least one of said apertures being exposable to provide, in use, an access port for

termite colony.
termite colony.

Suitably, said cellulosic feedstuff comprises a cellulosic matrix of particulate material having a termiticide dispersed therein.

The cellulosic matrix may be incorporated into said hollow body as a flowable particulate material.

Alternatively, said cellulosic matrix may comprise a compressed body of particulate material with or without a binder.

If required, said cellulosic matrix may be present in said hollow body as a hydrated mass occupying substantially the entire interior cavity of said hollow body.

The termiticide may be selected from any suitable termiticide including borate compounds, chitin synthesis inhibitors, nicotinoids, phenol ureas, phenol pyrazoles.

Suitably, a termite attractant composition may be incorporated in said cellulosic matrix.

Alternatively, said attractant composition may be incorporated in a barrier layer of corrugated cellulosic material disposed between said cellulosic matrix and an inner wall of said hollow body.

The termite attractant composition may be selected from any suitable attractant including allantoin, ellagic acid, hydroxycoumarin, urea.

The hollow body may comprise a viewing port.

If required, the viewing port may include an indicator which, in use, indicates the presence of termites adjacent thereto in said hollow body.

Preferably, said bait station is adapted for coupling to an adjacent bait station via alignable apertures in respective hollow bodies.

The bait station may be adapted for coupling to an adjacent bait station via a hollow conduit communicating with respective interior cavities of said bait stations.

CLAIMS:

1. A bait station for distribution of a termiticide to foraging termites, said bait station comprising:-
 - 5 a sealed hollow body containing a cellulosic feedstuff and a termiticide, said hollow body having a plurality of apertures therein at least one of said apertures being exposable to provide, in use, an access port for termites to enter said hollow body, said hollow body being adapted for mounting on a structure containing termites with at least one of said
 - 10 apertures being exposed to form a pathway between an interior cavity of said hollow body and termite pathways in said structure communicating with a termite colony.
2. A bait station as claimed in claim 1 wherein said cellulosic feedstuff comprises a cellulosic matrix of particulate material having a
- 15 termiticide dispersed therein.
3. A bait station as claimed in claim 2 wherein said cellulosic matrix is incorporated into said hollow body as a flowable particulate material.
4. A bait station as claimed in claim 2 wherein said cellulosic
- 20 matrix comprises a compressed body of particulate material with or without a binder.
5. A bait station as claimed in claim 3 wherein said cellulosic matrix is present in said hollow body as a hydrated mass occupying substantially the entire interior cavity of said hollow body.
- 25 6. A bait station as claimed in claim 1 wherein said termiticide is selected from any suitable termiticide including borate compounds, chitin synthesis inhibitors, nicotinoids, phenol ureas, phenol pyrazoles.
7. A bait station as claimed in claim 2 wherein a termite attractant composition is incorporated in said cellulosic matrix.
- 30 8. A bait station as claimed in claim 2 wherein said attractant composition is incorporated in a barrier layer of corrugated cellulosic material disposed between said cellulosic matrix and an inner wall of said hollow

body.

9. A bait station as claimed in claim 1 wherein said termite attractant composition is selected from any suitable attractant including allantoin, ellagic acid, hydroxycoumarin, urea.

5 10. A bait station as claimed in claim 1 wherein said hollow body comprises a viewing port.

11. A bait station as claimed in claim 10 wherein said viewing port includes an indicator which, in use, indicates the presence of termites adjacent thereto in said hollow body.

10 12. A bait station as claimed in claim 1 wherein said bait station is adapted for coupling to an adjacent bait station via alignable apertures in respective hollow bodies.

13. A bait station as claimed in claim 12 wherein said bait station is adapted for coupling to an adjacent bait station via a hollow conduit communicating with respective interior cavities of said bait stations.

14. A bait station as claimed in claim 1 wherein said hollow body is adapted for mounting on a structure by one or more fasteners.

15 15. A bait station as claimed in claim 1 wherein said bait station is adapted for mounting on a structure containing termites by a hollow conduit extending between an interior region of said structure and said interior cavity of said bait station.

16. A bait station as claimed in claim 15 wherein said structure is a detector station.

20 17. A system for the detection and elimination of termites in a medium, said system comprising:-

a detector station having an apertured insertable portion for insertion into said medium and a normally exposed viewing port adjacent one end of said detector station, said viewing port, in use, permitting an indication of the presence of termites feeding on a cellulosic feedstuff in said detector station; and,

30 a bait station according to claim 1, said detector station being adapted for coupling to said bait station to provide a pathway from a termite

colony via said detector station to said bait station.

18. A system as claimed in claim 17 wherein said detector station comprises a hollow body having a plurality of apertures therein, said hollow body of said detector station being insertable into a soil medium to permit access to said feedstuff by subterranean termites.

19. A system as claimed in claim 17 wherein said cellulosic feedstuff in said detector station comprises a cellulosic matrix of particulate material.

20. A system as claimed in claim 19 wherein said cellulosic matrix in said detector station has a termite attractant composition incorporated therein.

21. A system as claimed in claim 20 wherein said attractant composition is incorporated into a barrier layer of cellulosic material disposed between said cellulosic matrix and an inner wall of said hollow body of said detector station.

22. A system as claimed in claim 17 wherein said detector station is adapted to be coupled to an adjacent detector station in said soil medium, said detector station and said adjacent detector station being coupled by a hollow plastics conduit having a corrugated cellulosic liner therein.

23. A system as claimed in claim 17 wherein said viewing port is removable to permit coupling of said bait station to form a pathway between an interior cavity of said detector and an interior cavity of said bait station.

24. A system as claimed in claim 23 wherein a hollow conduit extends between respective interior cavities of said detector station and said bait station.

25. A system as claimed in claim 17 wherein said detector is adapted for insertion into a timber medium by a hollow conduit insertable in an aperture formed in said timber medium.

26. A system as claimed in claim 25 wherein said hollow conduit comprises a plastics tube having a liner of corrugated cellulosic medium therein.

27. A system as claimed in claim 25 wherein said hollow conduit

comprises a timber dowel having at least one aperture extending between an interior region of said timber medium and an interior cavity of said detector station.

28. A system as claimed in claim 27 wherein said timber dowel has said at least one aperture preformed therein or subsequently formed by a termite.

29. A method for the detection and elimination of termites in a medium, said method comprising the steps of:-
inserting into said medium an insertable portion of a detector station, said detector station including an exposed viewing port to detect the presence of termites feeding on a feedstuff adjacent an inner surface of said viewing port; and,

upon detection of the presence of termites via said viewing port, coupling to said detector station a bait station including a cellulosic termite feedstuff with a termiticide dispersed therein, said detector station and said bait station, when coupled, providing a pathway from a termite colony to said bait station via said detector station.

30. A method as claimed in claim 29 wherein said detector station comprises a device according to claim 17.

31. A method as claimed in claim 29 wherein said bait station comprises a device according to claim 1.

PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY EXAMINATION REPORT

REC'D 29 JUN 2004

PCT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 12387PC1-PCF/PAB	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).	
International Application No. PCT/AU2003/001044	International Filing Date (day/month/year) 18 August 2003	Priority Date (day/month/year) 18 August 2002
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ A01M 1/20, 1/02, 1/24; 17/00		
Applicant ECOSPAN CONSULTING SERVICES PTY LTD et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 7 sheet(s).

3. This report contains indications relating to the following items:

- EPO - DG 1
09. 08. 2004
(36)
- I ☒ Basis of the report
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 8 March 2004	Date of completion of the report 15 June 2004
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer A. SEN Telephone No. (02) 6283 2158

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/AU2003/001044

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed.
- ☒ the description, pages 1-3, 6-18, as originally filed,
pages , filed with the demand,
pages 4, 5, 5a, received on 2 June 2004 with the letter of 2 June 2004
- ☒ the claims, pages , as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
pages 19-22, received on 2 June 2004 with the letter of 2 June 2004
- ☒ the drawings, pages 1/7-7/7, as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☐ the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/AU2003/001044

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims 1-33	YES
	Claims	NO
Inventive step (IS)	Claims 1-33	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-33	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

Claims 1-33 meet the criteria set forth in PCT Article 33(2)-(4) for novelty, inventive step and industrial applicability. The prior art published before the priority date does not disclose or teach, singly or in combination, a bait station, alone or combined with a detector station, with a hermetically sealed hollow body containing cellulosic feedstuff and termiticide, the hollow body having at least one closed aperture that can be exposed to form an access port and a barrier between the access port and the termiticide, the hollow body being adapted for hermetically sealed mounting on a structure.

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While generally effective for their intended purpose, such internal baiting stations suffer a number of disadvantages. Due to the nature of the termiticide compounds used and the fact that a fresh batch of feed containing the termiticide must be mixed on site prior to sealing the bait container, only licensed operators may install the baiting stations. Moreover, as frequent inspections and refills are required this is not only a costly exercise for the homeowner but the removal of the front cover plate at regular intervals can disturb the feeding cycle of the termite and seriously protract the treatment time required to eradicate a nest.

Accordingly, it is an aim of the present invention to provide a method and apparatus for the detection and/or eradication of termites both in subterranean environments and in structures, which method and apparatus overcome or alleviate at least some of the shortcomings of prior art systems.

SUMMARY OF THE INVENTION

According to a first aspect of the apparatus there is provided a bait station for distribution of a termiticide to foraging termites, said bait station comprising:-

- a bait station for distribution of a termiticide to foraging termites, said bait station comprising:-
 - a hermetically sealed hollow body containing a cellulosic